

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A golf ball comprising:
 - a center comprising:
 - a resilient polymer comprising polybutadiene having a molecular weight of greater than about 200,000;
 - a crosslinking material present in an amount of about 10 to about 40 parts per hundred of the resilient polymer;
 - a free radical source present in an amount of about 0.1 to about 15 parts per hundred of the resilient polymer;
 - a cis-to-trans catalyst present in an amount sufficient to produce a center having a first amount of trans-isomer at an interior location and a second amount of trans-isomer at a surface location, wherein the first amount is at least about 6 percent less than the second amount, and wherein the cis-to-trans catalyst comprises a metal organosulfur compound; and
 - a cover comprising a thermoplastic or thermoset polyurethane.
2. (Original) The golf ball of claim 1, wherein the first amount is at least about 10 percent less than the second amount.
3. (Original) The golf ball of claim 2, wherein the first amount is at least about 20 percent less than the second amount.
4. (Original) The golf ball of claim 1, wherein the center has an Atti compression of less than about 50.
5. (Original) The golf ball of claim 4, wherein the center has an Atti compression of less than about 25.

6. (Original) The golf ball of claim 1, wherein the interior location is a midpoint of the center.
7. – 9. (Canceled)
10. (Original) The golf ball of claim 1, wherein the cover has a thickness of about 0.02 inches to about 0.04 inches.
11. (Original) The golf ball of claim 1, wherein the resilient polymer comprises at least 12 percent trans-isomer at the center.
12. (Currently Amended) A golf ball comprising:
a center comprising:
a cured resilient polymer component comprising polybutadiene having a molecular weight of greater than about 200,000, wherein the cured resilient polymer component comprises an ~~[[final]]~~ amount of trans-isomer at least about 32 percent or greater based on the ~~than an initial amount of trans-isomer present in an uncured~~ resilient polymer component;
a crosslinking material present in an amount of about 10 to about 40 parts per hundred of the resilient polymer;
a free radical source present in an amount of about 0.1 to about 15 parts per hundred of the resilient polymer;
a cis-to-trans catalyst present in an amount sufficient to produce a center having a first amount of trans-isomer at an interior location and a second amount of trans-isomer at a surface location; and
a cover comprising a thermoplastic or thermoset polyurethane.
13. (Original) The golf ball of claim 12, wherein the first amount is at least about 6 percent less than the second amount.

14. (Original) The golf ball of claim 13, wherein the second amount is at least about 10 percent less than the second amount.
15. (Original) The golf ball of claim 14, wherein the second amount is at least about 20 percent less than the second amount.
16. – 17. (Canceled)
18. (Currently Amended) A golf ball comprising:
a center comprising:
a resilient polymer comprising polybutadiene having a molecular weight of greater than about 250,000;
a crosslinking material present in an amount of about 10 to about 30 parts per hundred of the resilient polymer;
a free radical source present in an amount of about 0.2 to about 5 parts per hundred of the resilient polymer;
a cis-to-trans catalyst present in an amount from about 0.1 to 5 parts per hundred of the resilient polymer, wherein the center has a first amount of trans-isomer at an interior location and a second amount of trans-isomer at a surface location, wherein the first amount is at least about 6 percent less than the second amount, and wherein the resilient polymer comprises at least about 32 percent trans-isomer; and
a cover comprising a castable reactive liquid material.
19. (Original) The golf ball of claim 18, wherein the first amount is at least about 10 percent less than the second amount.
20. (Original) The golf ball of claim 19, wherein the first amount is at least about 20 percent less than the second amount.
21. (Original) The golf ball of claim 18, wherein the castable reactive liquid material

comprises polyurethane.

Please add the following new claims:

22. (New) The golf ball of claim 12, wherein the cis-to-trans catalyst comprises a metal organosulfur compound.
23. (New) The golf ball of claim 18, wherein the cis-to-trans catalyst comprises an organosulfur compound.
24. (New) The golf ball of claim 18, wherein the cis-to-trans catalyst comprises an aromatic organic compound.
25. (New) The golf ball of claim 24, wherein the aromatic organic compound comprises a fused ring C₆ to C₂₄ aromatic group, a hydroxy group, a metal salt of a hydroxyl, a mercapto group, a metal salt of a mercapto group, or a combination thereof.